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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/569,002

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EXAMINER

HOLLWEG, THOMAS A

ART UNIT

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2879

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/569,002	Applicant(s) KASHIWABARA, MITSUHIRO	
	Examiner Thomas A. Hollweg	Art Unit 2879	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 November 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 11-18 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 11-18 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 15 February 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>2/15/2006, 11/15/2007</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Preliminary Amendment

1. Applicant's preliminary amendment, received February 15, 2006, is acknowledged. Claims 1-10 have been cancelled. Claims 11-18 have been added and are currently pending.

Information Disclosure Statement

2. The information disclosure statements (IDS) submitted on February 15, 2006, and November 15, 2007, is in compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure statement is being considered by the examiner.

Claim Objections

3. The listed claims are objected to for the following informalities:
- a. Claim 13, the phrase "has any one of both a hole transporting property and an electron blocking property and both an electron transporting property and a hole blocking property" is confusing. Proper punctuation or rephrasing is required.
- Appropriate correction is required.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 11-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lee et al., U.S. Patent Application Publication No. 2004/0032214 A1, in view of Yamazaki et al., U.S. Patent Application Publication No. 2004/0012331 A1.

6. With regard to claim 11, in figures 4B-D, Lee discloses an organic EL device comprising: a plurality of light emitting layers (44, 49, 50) different in emission color and laminated between an anode (41) and a cathode (48), wherein: a red light emitting layer (50), a green light emitting layer (49), and a blue light emitting layer (44) are laminated; and an intermediate layer (45) comprised of an organic material is provided at at least one location between said light emitting layers (44, 49, 50) [0031-0037]. Lee does not expressly disclose that the layers are in the order anode/red/green/blue/cathode.

7. Yamazaki, in figure 1A, teaches an organic EL device having a plurality of light emitting layers (12a-c) that may be selected to generate white light by doping polymer materials with pigments [0052-0063]. One having ordinary skill in the art would understand that white light may be generated by doping the layers to emit red, green and blue light, and the order of the emission layers and the direction of emission are both matters of design choice.

8. Therefore, at the time of invention, it would have been an obvious design choice for a person having ordinary skill in the art to construct the Lee organic EL device where the layers are arranged anode/red/green/blue/cathode, according to the teaching of Yamazaki, to produce excellent white light emission.

9. With regard to claim 12, in figures 4B-D, Lee discloses that a HOMO-LUMO energy gap of said intermediate layer (45) is greater than a HOMO-LUMO energy gap

of at least one material constituting said light emitting layers (44, 49, 50) disposed adjacent to said intermediate layer (45) (energy gap property is inherent to the materials discloses) [0031-0037].

10. With regard to claim 13, in figures 4B-D, Lee discloses that said intermediate layer (45) has any one of both a hole transporting property and an electron blocking property and both an electron transporting property and a hole blocking property (properties inherent to the materials disclosed) [0033].

11. With regard to claim 14, the limitation “said red light emitting layer, said green light emitting layer, and said blue light emitting layer are laminated in respective order between said anode and said cathode” is redundant from claim 11 and does not further limit the invention. In figures 4B-D, Lee discloses that an intermediate layer (45) having both a hole transporting property and an electron blocking property (properties inherent to the materials disclosed) is provided at least between said green light emitting layer (49) and said blue light emitting layer (44) [0031-0037].

12. With regard to claim 15, in figures 4B-D, Lee discloses that a LUMO energy level of said intermediate layer (45) having a hole transporting property is higher than a LUMO energy level of an electron transporting component in said green light emitting layer (49) (properties inherent to the materials disclosed) [0031-0037].

13. With regard to claim 16, the limitation “said red light emitting layer, said green light emitting layer, and said blue light emitting layer are laminated in respective order from the anode side between said anode and said cathode” is redundant from claim 11 and does not further limit the invention. In figures 4B-D, Lee discloses an intermediate

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layer (45) having both a hole transporting property and an electron blocking property (properties inherent to the materials disclosed) is provided at least between said red light emitting layer (50) and said green light emitting layer (49) [0031-0037].

14. With regard to claim 17, in figures 4B-D, Lee discloses that the LUMO energy level of said intermediate layer (45) having an hole transporting property is higher than the LUMO energy level of an electron transporting component in said red light emitting layer (50) (properties inherent to the materials disclosed) [0031-0037].

15. With regard to claim 18, all of the limitations are disclosed by Lee and Yamazaki, as discussed in the rejection of claim 11 above, except for a color filter on the light take-out surface side of an organic EL device.

16. Yamazaki teaches an organic EL device with a color filter on the light take-out surface side [0061]. At the time of invention, it would have been obvious for a person having ordinary skill in the art to construct the Lee and Yamazaki organic EL device, as discussed in the rejection of claim 11, where a color filter is disposed on the light take-out surface, as taught by Yamazaki, so that red, green and blue light may be selectively emitted from the organic EL device.

Conclusion

17. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thomas A. Hollweg whose telephone number is (571) 270-1739. The examiner can normally be reached on Monday through Friday 7:30am-5:00pm E.S.T..

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18. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nimesh Patel can be reached on (571) 272-2457. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

19. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/TH/

/Nimeshkumar Patel/

Supervisory Patent Examiner, Art Unit 2879